CLAIMS

1. A sequence controller that has one controller and a plurality of controlled devices connected in series via different routes from those used for data transmission, and provides an identification code to the device to be controlled, wherein

the controller includes: a first transmitting unit that outputs a first identification code provision start signal to all the controlled devices to simultaneously notify that provision of the identification code is started; and

a second transmitting unit that outputs a second identification code provision start signal to notify that provision of the identification code is started and an identification code provision end signal to notify that the provision of the identification code ends to a controlled device adjacently connected to the self device, and

each controlled device includes: an identification code provision timing detecting unit that detects the first and the second identification code provision start signals and the identification code provision end signal;

an identification code providing unit that holds a header identification code to be provided to the self device and provides the identification code to the self device based on the held header identification code and a predetermined number of identification codes to be provided to the self device, after the identification code provision start signal detecting unit detects the first and the second identification code provision start signals; and

a third transmitting unit that notifies the second identification code provision start signal and the identification code provision end signal to a latter-stage controlled device.

2. The sequence controller according to claim 1, wherein

the first transmitting unit and the second transmitting unit adjust time to output the first identification code provision start signal and the second identification code provision start signal respectively.

3. The sequence controller according to claim 2, wherein

the first transmitting unit outputs the first identification code provision start signal after the second transmitting unit outputs the second identification code provision start signal.

4. The sequence controller according to claim 2, wherein

the second transmitting unit outputs the second identification code provision start signal after the first transmitting unit outputs the first identification code provision start signal.

5. The sequence controller according to claim 1, wherein

the controller further includes a clock unit that measures time required for all the controlled devices to provide identification codes, and

the second transmitting unit outputs the identification provision end timing when the clock unit completes measuring time.

6. The sequence controller according to claim 1, wherein

the identification code providing unit ends providing an identification code upon receiving the identification code provision end signal, and

the third transmitting unit immediately notifies the identification code provision end signal to a controlled device adjacently connected at a farther side from the controller than from the self device upon receiving the identification code provision end signal.

7. The sequence controller according to claim 1, wherein

the third transmitting unit calculates time required to provide identification codes according to a predetermined number of the identification codes to be provided to the self device, and outputs a second identification code provision start signal detected by the identification code provision start signal detecting unit by delaying the output by the calculated time.

8. The sequence controller according to claim 7, wherein

the identification code providing unit provides an identification code to the self device at timing when the third transmitting unit outputs the second identification code provision start signal.

9. The sequence controller according to claim 1, wherein

the identification code provision timing detecting unit sets noise

as the identification code provision end signal when the noise is detected after detecting the first and the second identification code provision start signals, and

the third transmitting unit notifies the identification code provision end signal to a controlled device adjacently connected at a farther side from the controller than from the self device.

10. The sequence controller according to claim 1, wherein

the first transmitting unit outputs the first identification code provision start signal to the route for data transmission, and

the second and the third transmitting units output the second identification code provision start signal and the identification code provision end signal to the serially connected route.